27,561

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

DONALD SAMUEL KAPLAN

Serial No.: 933,224 / Group Art Unit: 335

Filed: August 14, 1978 Examiner: Robert W. Michell

SURGICAL SUTURES DERIVED FROM SEGMENTED POLYETHER-ETHER BLOCK COPOLYMERS

The Honorable Commissioner
of Patents and Trademarks

Washington, D. C. 20231

Date: September 20, 1979

S i r :

L E T T E R

In response to the Office Action dated June 22, 1979 on the above-identified application, please consider the following comments.

The Examiner's allowance of Claim 6, if written in independent form, is noted and appreciated by the Applicant.

Subsequent to receiving the Examiner's Office Action, the attached reference came to the attention of the Applicant's attorney: J. Polymer Science: Symposium No. 48, 47-60 (1974). This reference may be of assistance to the Examiner in the prosecution of this application.

Amendments to the specification and claims appear to be necessary to correct possible ambiguities and typographical mistakes. These amendments appear to be of a formal nature. Further searching by the Examiner does not appear to be neces-

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Name of Applicant, Assignee, or Registered Representative

Charles F. Costello, Jr.
Signature

9/20/79
Date of Signature

sary. Therefore, to further the prosecution of this application, these amendments are held in abeyance until this letter is considered by the Examiner.

THE 35 USC 102 REJECTION

The Examiner has rejected Claims 1 to 5 for lack of novelty under 35 USC 102. To support the rejection, the Examiner cites Reference B (U.S. 3,652,713). The Examiner comments that Reference B discloses a molecular weight from 19,000 to 100,000. Further, the Examiner comments that the term "suture" is not distinguishable from the term "fibrous" or "filamentary form".

Referring to the Examiner's former comment, the Applicant located a molecular weight disclosure in Reference B at column 5 lines 46 to 55. The disclosure on line 49 of ". . . a molecular weight of 50,000-100,000 . . ." seems to relate to the polyether-polyester block copolymer (polymer A). The molecular weight disclosure on line 55 of ". . ., 19,000-20,000 . . ." seems to relate to the polyether portion of the polyether-polyester block copolymer. Finally, the polyester composition of Reference B appears to be a mixture of polymer A and a linear polyester (polymer B). See, e.g., Reference B Claim 1 column 17.

The polymeric block (A) in this application is similar to the polyether-polyester block copolymer (polymer A) of Reference B. The polymeric block (A) has an average molecular weight of from about 500 to 3000. See, e.g., this application, page 3 lines 19 to 21. The polymeric block (A) is chemically linked with a polymeric block (B) to form a true copolymer. The average molecular weight of the copolymer, which comprises polymeric block (A) and polymeric block (B), is from about 25,000 to 30,000. See, e.g., this application page 4 lines 2 to 3.

In summary, the molecular weights of the polymeric

block (A) and of the copolymer in this application are less than the disclosed molecular weight of the polyether-polyester block copolymer (polymer A) of Reference B. The copolymer described in this application is a true copolymer. The polyester composition described in Reference B appears to be a mixture. It is therefore respectfully submitted that the Examiner's rejection of Claims 1 to 5 from the molecular weight disclosure in Reference B has been overcome.

Referring to the Examiner's latter comment, the polyester mixture of Reference B is disclosed as having "improved" or "excellant" antistatic properties. See, e.g., Reference B, column 1, lines 26 to 27 or Claim 1 column 17, lines 38 to 39. Reference B teaches a reaction of preferably polyethylene terephthalate, with a polyethylene glycol or a copolymer of ethylene oxide and propylene oxide to obtain the polyether-polyester block copolymer (polymer A). See, e.g., Reference B, column 3 line 58, and Claims 5 and 6, column 8 lines 3 to 7, respectively.

The use of a homo- or co- polyethylene ether to increase the hydrophilic (or moisture attraction) properties of polyesters generally and polyethylene terephthalate specifically is known in the art. See, e.g., J. Polymer Science XIV 15-28 (1954). To assist the Examiner a copy of this reference is attached to and made a part of this amendment.

The copolymer in this application is disclosed and claimed as a surgical suture. The suture has excellant strength and flexibility as a monofilament. To obtain these properties, the polymeric block (A) is derived from, e.g., terephthalic acid and, preferably, a poly(tetramethylene ether)glycol. The polymeric block (A) is then chemically linked with a polymeric block (B) to form a true copolymer. The polymeric block (B) is the reaction product of, e.g., terephthalic acid and, preferably, tetramethylene glycol.

In summary, it is respectfully submitted that the polyester mixture and the properties obtained from the mixture of Reference B are different from the copolymer and the properties obtained from the copolymer of this application. The polyester mixture of Reference B is described as having "excellent antistatic properties". The copolymer of this application is described as a surgical suture. The suture is useful because it has excellant properties of strength and flexibility. The Applicant therefore respectfully submits that the term "suture" in this application is not within the term "fibrous" or "filamentary form" of Reference B. Further, it is respectfully submitted that the Examiner's rejection of Claims 1 to 5 from the "fibrous" or "filamentary form" disclosure in Reference B has therefore been overcome.

THE 35 USC 103 REJECTION

The Examiner has rejected Claims 7 to 8 for obviousness under 35 USC 103. To support the rejection, the Examiner again cites Reference B and comments that to enclose the fibers of Reference B in a surgical suture package would be obvious to a person having ordinary skill in the art.

From the discussion above on "The 35 USC 102 Rejection", it is respectfully submitted that the Applicant has shown differences between the copolymer of this application and the polyester mixture of Reference B. The differences in these polymers result in different properties and in a different utility: the copolymer of this application is useful as a surgical suture or ligature; the polyester composition of Reference B is useful as a fiber having excellent antistatic properties. It is further respectfully submitted that an antistatic property seems to suggest a textile or electrical use and not a surgical suture use.

Because the copolymer and use of the copolymer in this Application is different from the prior art, the Appli-

cant respectfully submits that a person having ordinary skill in the art of suture packaging would not find the invention in Claims 7 and 8 of this application obvious. The Applicant therefore respectfully traverses the Examiner's rejection and respectfully requests that the rejection be withdrawn.

The Applicant again states his appreciation to the Examiner for the allowance of Claim 6. The Examiner's comments relating to the amendment of Claim 6 to an independent form and the requirement of a drawing depicting the subject matter of Claims 6 and 7 are noted. The Applicant respectfully requests that these comments be held in abeyance until this letter is considered by the Examiner. Finally, the remaining references A and C to F cited by the Examiner are noted and appreciated. Because no rejection appears to be based on these references, further discussion is deemed not necessary.

C O N C L U S I O N

By this letter, the Examiner's rejections of Claims 7 and 8 is respectfully traversed and an early allowance of Claims 1 to 5 and 7 and 8 is respectfully requested.

Respectfully submitted,

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CFCjr/jad
Attachments: (1) J. Polymer Science, Sumposium No. 48
(2) J. Polymer Science, XIV

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